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Sequence Listing was accepted.
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Reviewer: Durreshwar Anjum
Timestamp: [year=2007; month=11; day=28; hr=14; min=25; sec=1; ms=587;]
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Validated By CRFValidator v 1.0.3

Application No: 10658752 Version No: 2.0

Input Set:

Output Set:

Started: 2007-11-08 19:13:23.798
Finished: 2007-11-08 19:13:25.945
Elapsed: 0 hr(s) 0 min(s) 2 sec(s) 147 ms
Total Warnings: 41
Total Errors: 0
No. of SeqIDs Defined: 41
Actual SeqID Count: 41

Error code	Error Description
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W 213	Artificial or Unknown found in <213> in SEQ ID (15)
W 213	Artificial or Unknown found in <213> in SEQ ID (16)
W 213	Artificial or Unknown found in <213> in SEQ ID (17)
W 213	Artificial or Unknown found in <213> in SEQ ID (18)
W 213	Artificial or Unknown found in <213> in SEQ ID (19)
W 213	Artificial or Unknown found in <213> in SEQ ID (20)

Input Set:

Output Set:

Started: 2007-11-08 19:13:23.798
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Total Warnings: 41
Total Errors: 0
No. of SeqIDs Defined: 41
Actual SeqID Count: 41

Error code	Error Description

This error has occured more than 20 times, will not be displayed

SEQUENCE LISTING

<110> LOHNING, CORINNA

<120> NOVEL METHODS FOR DISPLAYING (POLY)PEPTIDES/PROTEINS ON
BACTERIOPHAGE PARTICLES VIA DISULFIDE BONDS

<130> 49981-002D

<140> 10658752
<141> 2003-09-10

<150> 09/809,517
<151> 2001-03-15

<150> PCT/EP00/06968
<151> 2000-07-20

<150> EP 99 11 4072.4
<151> 1999-07-20

<150> EP 00 10 3551.8
<151> 2000-02-18

<160> 41

<170> PatentIn Ver. 3.3

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<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
peptide

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His His

<210> 2
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
peptide

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1 5 10

<210> 3
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic peptide

<400> 3
Asp Tyr Cys Asp Ile Glu Phe
1 5

<210> 4
<211> 16
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic peptide

<400> 4
Cys Gly Arg Asp Tyr Lys Asp Asp Asp Lys His His His His His His
1 5 10 15

<210> 5
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic peptide

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Glu Phe Ser His His His His His His
1 5

<210> 6
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic peptide

<400> 6
Ser Ala Trp Ser His Pro Gln Phe Glu Lys
1 5 10

<210> 7
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
peptide

<400> 7
Thr Met Ala Cys Asp Ile Glu Phe
1 5

<210> 8
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
peptide

<400> 8
Asp Tyr Lys Asp Asp Asp Asp Lys
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<210> 9
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
peptide

<400> 9
Trp Ser His Pro Gln Phe Glu Lys
1 5

<210> 10
<211> 5
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<213> Artificial Sequence

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peptide

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Pro Gly Gly Ser Gly
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<210> 11
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<220>
<223> Description of Artificial Sequence: Synthetic
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<210> 12
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
peptide

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Cys His His His His His His
1 5

<210> 13
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
peptide

<400> 13
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<210> 14
<211> 17
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
peptide

<400> 14
Cys Ala Gly Pro Tyr Asp Val Pro Asp Tyr Ala Ser Leu Arg Ser His
1 5 10 15

His

<210> 15
<211> 7
<212> PRT
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<220>
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peptide

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Arg Ser Gly Ala Tyr Asp Tyr
1 5

<210> 16
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<212> PRT
<213> Artificial Sequence

<220>
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peptide

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Gln Gln Tyr Ser Ser Phe Pro Leu
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<210> 17
<211> 11
<212> PRT
<213> Artificial Sequence

<220>
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peptide

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Phe Asp Pro Phe Phe Asp Ser Phe Phe Asp Tyr
1 5 10

<210> 18
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
peptide

<400> 18
Gln Ser Tyr Asp Gln Asn Ala Leu Val Glu
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<210> 19
<211> 13
<212> PRT
<213> Artificial Sequence

<220>
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peptide

<400> 19
His Gly Tyr Arg Lys Tyr Tyr Thr Asp Met Phe Asp Val
1 5 10

<210> 20
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
peptide

<400> 20
His Gln Val Tyr Ser Thr Ser Pro
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<210> 21
<211> 11
<212> PRT
<213> Artificial Sequence

<220>
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peptide

<400> 21
Phe Pro Tyr Thr Tyr His Gly Phe Met Asp Asn
1 5 10

<210> 22
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
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peptide

<400> 22
Gln Ser Tyr Asp Ser Gly Asn Leu
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<210> 23
<211> 434
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
protein sequence

<400> 23
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Thr Val Ala Gln Ala Asp Tyr Cys Asp Ile Glu Phe Ala Glu Thr Val
20 25 30

Glu Ser Cys Leu Ala Lys Pro His Thr Glu Asn Ser Phe Thr Asn Val
35 40 45

Trp Lys Asp Asp Lys Thr Leu Asp Arg Tyr Ala Asn Tyr Glu Gly Cys
50 55 60

Leu Trp Asn Ala Thr Gly Val Val Val Cys Thr Gly Asp Glu Thr Gln
65 70 75 80

Cys Tyr Gly Thr Trp Val Pro Ile Gly Leu Ala Ile Pro Glu Asn Glu
85 90 95

Gly Gly Gly Ser Glu Gly Gly Gly Ser Glu Gly Gly Gly Ser Glu Gly
100 105 110

Gly Gly Thr Lys Pro Pro Glu Tyr Gly Asp Thr Pro Ile Pro Gly Tyr
115 120 125

Thr Tyr Ile Asn Pro Leu Asp Gly Thr Tyr Pro Pro Gly Thr Glu Gln
130 135 140

Asn Pro Ala Asn Pro Asn Pro Ser Leu Glu Glu Ser Gln Pro Leu Asn
145 150 155 160

Thr Phe Met Phe Gln Asn Asn Arg Phe Arg Asn Arg Gln Gly Ala Leu
165 170 175

Thr Val Tyr Thr Gly Thr Val Thr Gln Gly Thr Asp Pro Val Lys Thr
180 185 190

Tyr Tyr Gln Tyr Thr Pro Val Ser Ser Lys Ala Met Tyr Asp Ala Tyr
195 200 205

Trp Asn Gly Lys Phe Arg Asp Cys Ala Phe His Ser Gly Phe Asn Glu
210 215 220

Asp Pro Phe Val Cys Glu Tyr Gln Gly Gln Ser Ser Asp Leu Pro Gln
225 230 235 240

Pro Pro Val Asn Ala Gly Gly Gly Ser Gly Gly Gly Ser Gly Gly Gly

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                245                 250                 255

Ser Glu Gly Gly Gly Ser Glu Gly Gly Gly Ser Glu Gly Gly Gly Ser
            260                 265                 270

Glu Gly Gly Gly Ser Gly Gly Gly Ser Gly Ser Gly Asp Phe Asp Tyr
        275                 280                 285

Glu Lys Met Ala Asn Ala Asn Lys Gly Ala Met Thr Glu Asn Ala Asp
    290                 295                 300

Glu Asn Ala Leu Gln Ser Asp Ala Lys Gly Lys Leu Asp Ser Val Ala
305                 310                 315                 320

Thr Asp Tyr Gly Ala Ala Ile Asp Gly Phe Ile Gly Asp Val Ser Gly
                325                 330                 335

Leu Ala Asn Gly Asn Gly Ala Thr Gly Asp Phe Ala Gly Ser Asn Ser
            340                 345                 350

Gln Met Ala Gln Val Gly Asp Gly Asp Asn Ser Pro Leu Met Asn Asn
        355                 360                 365

Phe Arg Gln Tyr Leu Pro Ser Leu Pro Gln Ser Val Glu Cys Arg Pro
    370                 375                 380

Tyr Val Phe Gly Ala Gly Lys Pro Tyr Glu Phe Ser Ile Asp Cys Asp
385                 390                 395                 400

Lys Ile Asn Leu Phe Arg Gly Val Phe Ala Phe Leu Leu Tyr Val Ala
                405                 410                 415

Thr Phe Met Tyr Val Phe Ser Thr Phe Ala Asn Ile Leu Arg Asn Lys
            420                 425                 430

Glu Ser
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<210> 24
<211> 219
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
protein sequence

<400> 24

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Met Lys Lys Thr Ala Ile Ala Ile Ala Val Ala Leu Ala Gly Phe Ala
  1               5                  10                  15

Thr Val Ala Gln Ala Asp Tyr Cys Asp Ile Glu Phe Asn Ala Gly Gly
             20                  25                  30

Gly Ser Gly Gly Gly Ser Gly Gly Gly Ser Glu Gly Gly Gly Ser Glu
         35                  40                  45
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Gly Gly Gly Ser Glu Gly Gly Gly Ser Glu Gly Gly Gly Ser Gly Gly
     50                  55                  60

Gly Ser Gly Ser Gly Asp Phe Asp Tyr Glu Lys Met Ala Asn Ala Asn
 65                  70                  75                  80

Lys Gly Ala Met Thr Glu Asn Ala Asp Glu Asn Ala Leu Gln Ser Asp
                 85                  90                  95

Ala Lys Gly Lys Leu Asp Ser Val Ala Thr Asp Tyr Gly Ala Ala Ile
            100                 105                 110

Asp Gly Phe Ile Gly Asp Val Ser Gly Leu Ala Asn Gly Asn Gly Ala
        115                 120                 125

Thr Gly Asp Phe Ala Gly Ser Asn Ser Gln Met Ala Gln Val Gly Asp
    130                 135                 140

Gly Asp Asn Ser Pro Leu Met Asn Asn Phe Arg Gln Tyr Leu Pro Ser
145                 150                 155                 160

Leu Pro Gln Ser Val Glu Cys Arg Pro Phe Val Phe Gly Ala Gly Lys
                165                 170                 175

Pro Tyr Glu Phe Ser Ile Asp Cys Asp Lys Ile Asn Leu Phe Arg Gly
            180                 185                 190

Val Phe Ala Phe Leu Leu Tyr Val Ala Thr Phe Met Tyr Val Phe Ser
        195                 200                 205

Thr Phe Ala Asn Ile Leu Arg Asn Lys Glu Ser
    210                 215


<210> 25
<211> 432
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
      protein sequence

<400> 25
Met Lys Lys Leu Leu Phe Ala Ile Pro Leu Val Val Pro Phe Tyr Ser
  1               5                  10                  15

His Ser Thr Met Ala Cys Asp Ile Glu Phe Ala Glu Thr Val Glu Ser
             20                  25                  30

Cys Leu Ala Lys Pro His Thr Glu Asn Ser Phe Thr Asn Val Trp Lys
         35                  40                  45

Asp Asp Lys Thr Leu Asp Arg Tyr Ala Asn Tyr Glu Gly Cys Leu Trp
     50                  55                  60
```

```
Asn Ala Thr Gly Val Val Val Cys Thr Gly Asp Glu Thr Gln Cys Tyr
 65                  70                  75                  80

Gly Thr Trp Val Pro Ile Gly Leu Ala Ile Pro Glu Asn Glu Gly Gly
                 85                  90                  95

Gly Ser Glu Gly Gly Gly Ser Glu Gly Gly Gly Ser Glu Gly Gly Gly
            100                 105                 110

Thr Lys Pro Pro Glu Tyr Gly Asp Thr Pro Ile Pro Gly Tyr Thr Tyr
        115                 120                 125

Ile Asn Pro Leu Asp Gly Thr Tyr Pro Pro Gly Thr Glu Gln Asn Pro
    130                 135                 140

Ala Asn Pro Asn Pro Ser Leu Glu Glu Ser Gln Pro Leu Asn Thr Phe
145                 150                 155                 160

Met Phe Gln Asn Asn Arg Phe Arg Asn Arg Gln Gly Ala Leu Thr Val
                165                 170                 175

Tyr Thr Gly Thr Val Thr Gln Gly Thr Asp Pro Val Lys Thr Tyr Tyr
            180                 185                 190

Gln Tyr Thr Pro Val Ser Ser Lys Ala Met Tyr Asp Ala Tyr Trp Asn
        195                 200                 205

Gly Lys Phe Arg Asp Cys Ala Phe His Ser Gly Phe Asn Glu Asp Pro
    210                 215                 220

Phe Val Cys Glu Tyr Gln Gly Gln Ser Ser Asp Leu Pro Gln Pro Pro
225                 230                 235                 240

Val Asn Ala Gly Gly Gly Ser Gly Gly Gly Ser Gly Gly Gly Ser Glu
                245                 250                 255

Gly Gly Gly Ser Glu Gly Gly Gly Ser Glu Gly Gly Gly Ser Glu Gly
            260                 265                 270

Gly Gly Ser Gly Gly Gly Ser Gly Ser Gly Asp Phe Asp Tyr Glu Lys
        275                 280                 285

Met Ala Asn Ala Asn Lys Gly Ala Met Thr Glu Asn Ala Asp Glu Asn
    290                 295                 300

Ala Leu Gln Ser Asp Ala Lys Gly Lys Leu Asp Ser Val Ala Thr Asp
305                 310                 315                 320

Tyr Gly Ala Ala Ile Asp Gly Phe Ile Gly Asp Val Ser Gly Leu Ala
                325                 330                 335

Asn Gly Asn Gly Ala Thr Gly Asp Phe Ala Gly Ser Asn Ser Gln Met
            340                 345                 350

Ala Gln Val Gly Asp Gly Asp Asn Ser Pro Leu Met Asn Asn Phe Arg
        355                 360                 365
```

```
Gln Tyr Leu Pro Ser Leu Pro Gln Ser Val Glu Cys Arg Pro Tyr Val
    370                 375                 380

Phe Gly Ala Gly Lys Pro Tyr Glu Phe Ser Ile Asp Cys Asp Lys Ile
385                 390                 395                 400

Asn Leu Phe Arg Gly Val Phe Ala Phe Leu Leu Tyr Val Ala Thr Phe
                405                 410                 415

Met Tyr Val Phe Ser Thr Phe Ala Asn Ile Leu Arg Asn Lys Glu Ser
            420                 425                 430
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<210> 26
<211> 434
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
protein sequence

<400> 26

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  1               5                  10                  15

Thr Val Ala Gln Ala Asp Tyr Cys Asp Ile Glu Phe Ala Glu Thr Val
             20                  25                  30

Glu Ser Cys Leu Ala Lys Pro His Thr Glu Asn Ser Phe Thr Asn Val
         35                  40                  45

Trp Lys Asp Asp Lys Thr Leu Asp Arg Tyr Ala Asn Tyr Glu Gly Cys
     50                  55                  60

Leu Trp Asn Ala Thr Gly Val Val Val Cys Thr Gly Asp Glu Thr Gln
 65                  70                  75                  80

Cys Tyr Gly Thr Trp Val Pro Ile Gly Leu Ala Ile Pro Glu Asn Glu
                 85                  90                  95

Gly Gly Gly Ser Glu Gly Gly Gly Ser Glu Gly Gly Gly Ser Glu Gly
            100                 105                 110

Gly Gly Thr Lys Pro Pro Glu Tyr Gly Asp Thr Pro Ile Pro Gly Tyr
        115                 120                 125

Thr Tyr Ile Asn Pro Leu Asp Gly Thr Tyr Pro Pro Gly Thr Glu Gln
    130                 135                 140

Asn Pro Ala Asn Pro Asn Pro Ser Leu Glu Glu Ser Gln Pro Leu Asn
145                 150                 155                 160

Thr Phe Met Phe Gln Asn Asn Arg Phe Arg Asn Arg Gln Gly Ala Leu
```

```
                165                 170                 175

Thr Val Tyr Thr Gly Thr Val Thr Gln Gly Thr Asp Pro Val Lys Thr
            180                 185                 190

Tyr Tyr Gln Tyr Thr Pro Val Ser Ser Lys Ala Met Tyr Asp Ala Tyr
        195                 200                 205
```